

Abstract

Switching elements M₁, M₂, M₃ are connected in series between the positive and negative lines carrying DC current supplied through a rectifier circuit 2 from an AC power supply 1 or directly supplied from a DC power source. The switching elements M₁, M₂, M₃ are on/off controlled by a high-frequency signal. An inductor L₁ and a capacitor C₁ are inserted between a connection node a and a load terminal c. An inductor L₂ and a capacitor C₂ are inserted between a connection node b and a load terminal d. The phases of on/off of the switching elements M₁, M₃ are the same, and the phase of on/off of the switching element M₂ is opposite to them. Without using any transformer, not only insulation against DC but insulation against AC is adequately ensured.